

CURRENT STATUS OF THE CLAIMS

In the Claims

The following is a marked-up version of the claims with the language that is underlined (“ ”) being added and the language that contains strikethrough (“”) being deleted:

1-81. (CANCELED)

82. (NEWLY ADDED) A polyoxometalate topical composition for removing a contaminant from an environment, comprising a topically acceptable pharmaceutical carrier and at least one polyoxometalate, said polyoxometalate having the formula $[X^g V_b^{j+} M_c^{h+} Z_{12-b-c}^{i+} O_x]^u [A]$, (a) wherein X is at least one p-, d-, or f-block element; g is greater than or equal to 2; M is at least one f-block element or d-block element having at least one d-electron, wherein M is not vanadium; h is from 1 to 7; i is from 5 to 6; j is from 4 to 5; x is 39 or 40; Z is tungsten, molybdenum, niobium, or a combination thereof; b is from 0 to 6; c is from 0 to 6; u is from 3 to 9; and A is a counterion, and (b) said carrier is suitable for application of a thin layer of the composition on the skin of a human.
83. (NEWLY ADDED) The composition of claim 82, wherein the polyoxometalate has the formula $[X_2^{r+} V_u^{s+} Z_{18-u}^{y+} O_{62}]^w [A]$, wherein X is at least one phosphorus, sulfur, silicon, aluminum, boron, zinc, cobalt, or iron; a is from 1 to 9; and w is greater than or equal to 4.
84. (NEWLY ADDED) The composition of claim 83, wherein the polyoxometalate has the formula $[X_2^{r+} M_v^{t+} Z_{18-v}^{y+} O_{62}]^w [A]$, wherein X is at least one phosphorus, sulfur, silicon, aluminum, boron, zinc, cobalt, or iron; v is from 1 to 9; and w is greater than or equal to 4.
85. (NEWLY ADDED) The composition of claim 82, wherein the topical carrier comprises a perfluorinated polymer.

86. (NEWLY ADDED) The composition of claim 82, wherein the topical carrier comprises a perfluorinated polymer and at least one unfluorinated polymer.
87. (NEWLY ADDED) The composition of claim 82, wherein the topical carrier comprises a perfluoropolyether.
88. (NEWLY ADDED) The composition of claim 82, wherein the topical carrier comprises a perfluoropolyether and at least one unfluorinated polyether.
89. (NEWLY ADDED) The composition of claim 82, wherein the polyoxometalate is from 0.01 to 95 % by weight of the polyoxometalate topical composition.
90. (NEWLY ADDED) The composition of claim 82, wherein the topical carrier is a perfluoropolyether and A is silver.
91. (NEWLY ADDED) A method for removing a contaminant from an environment, comprising contacting the polyoxometalate topical composition of claim 82 with the environment containing the contaminant for a sufficient time to remove the contaminant from the environment.
92. (NEWLY ADDED) The method of claim 91, wherein the environment comprises a gas phase.
93. (NEWLY ADDED) The method of claim 91, wherein the environment comprises a liquid phase.

94. (NEWLY ADDED) The method of claim 91, wherein the contaminant comprises an aldehyde, an aliphatic nitrogen compound, a sulfur compound, an aliphatic oxygenated compound, a halogenated compound, an organophosphate compound, a phosphonothioate compound, a phosphorothioate compound, an arsenic compound, a chloroethyl-amine compound, a phosgene compound, a cyanic compound, or a combination thereof.
95. (NEWLY ADDED) The method of claim 91, wherein when the environment is a gas phase, the contaminant is removed from the gas phase at from -50°C to 250°C and the contaminant from the gas phase has a partial pressure of from 0.1 ppb to 30 atm.
96. (NEWLY ADDED) The method of claim 91, wherein when the environment is a gas phase, the contaminant is removed from the gas phase at from 0°C to 105°C and the contaminant from the gas phase has a partial pressure of 1 atm.